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generic description in terms of salting-out effects. J Chromatogr B Biomed Appl. 1996 May 17;680(1-2):31-41. PMID: 8798879 [PubMed - indexed for MEDLINE] 9: Lu M, Tjerneld F. Related Articles, Links Interaction between tryptophan residues and hydrophobically modified dextran. Effect on partitioning of peptides and proteins in aqueous two-phase systems. J Chromatogr A. 1997 Apr 4;766(1-2):99-108. PMID: 9134730 [PubMed - indexed for MEDLINE] 10: Andrews BA, Nielsen S, Asenjo JA. Related Articles, Links Partitioning and purification of monoclonal antibodies in aqueous two-phase systems. Bioseparation. 1996;6(5):303-13. PMID: 9210350 [PubMed - indexed for MEDLINE] 11: Gunduz U. Related Articles, Links Viscosity prediction of polyethylene glycol-dextran-water solutions used in aqueous two-phase systems. J Chromatogr B Biomed Sci Appl. 2000 Jun 23;743(1-2):181-5. PMID: 10942284 [PubMed - indexed for MEDLINE] 12: Sinha J, Dey PK, Panda T. Related Articles, Links Extractive fermentation for improved production of endoglucanase by an intergeneric fusant of Trichoderma reesei/Saccharomyces cerevisiae using aqueous two-phase system. Biochem. Eng. J.. 2000 Dec 1;6(3):163-175. PMID: 11080646 [PubMed - as supplied by publisher] 13: Wu YT, Pereira M, Venancio A, Teixeira J. Related Articles, Links Recovery of endo-polygalacturonase using polyethylene glycol-salt aqueous two-phase extraction with polymer recycling. Bioseparation. 2000;9(4):247-54. PMID: 11321523 [PubMed - indexed for MEDLINE] 14: Li C, Bai J, Li W, Cai Z, Ouyang F. Related Articles, Links Optimization of conditions for bacteriocin extraction in PEG/salt aqueous two-phase systems using statistical experimental designs. Biotechnol Prog. 2001 Mar-Apr;17(2):366-8. PMID: 11312717 [PubMed - indexed for MEDLINE] 15: Rito-Palomares M, Hernandez M. Related Articles, Links Influence of system and process parameters on partitioning of cheese whey proteins in aqueous two-phase systems. J Chromatogr B Biomed Sci Appl. 1998 Jun 26;711(1-2):81-90. PMID: 9699977 [PubMed - indexed for MEDLINE] 16: Zijlstra GM, Michielsen MJ, de Gooijer CD, van der Pol LA, Tramper J. Related Articles, Links Separation of hybridoma cells from their IgG product using aqueous two-phase systems. Bioseparation. 1996;6(4):201-10. PMID: 9032983 [PubMed - indexed for MEDLINE] 17: Lantz PG, Tjerneld F, Hahn-Hagerdal B, Radstrom P. Related Articles, Links Use of aqueous two-phase systems in sample preparation for polymerase chain reactionbased detection of microorganisms.

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	Partitioning of bovine serum albumin in an aqueous two-phase systematition coefficient.  J Chromatogr B Biomed Sci Appl. 2000 Jun 23;743(1-2):259-62.  PMID: 10942295 [PubMed - indexed for MEDLINE]	em: optimization of
□ 19:	Rito-Palomares M, Cueto L.	Related Articles, Links
	Effect of biological suspensions on the position of the binodal curve phase systems.  J Chromatogr B Biomed Sci Appl. 2000 Jun 23;743(1-2):5-12.  PMID: 10942267 [PubMed - indexed for MEDLINE]	e in aqueous two-
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	The preparation of dextran microspheres in an all-aqueous system: formulation parameters on particle characteristics.  Pharm Res. 1998 Apr;15(4):557-61.  PMID: 9587951 [PubMed - indexed for MEDLINE]	effect of the
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May 12 2004 06:43:50

Page 1 of 1

ications: Hirudin

## HIRUDIN

Hirudin is a 65 amino-acid cysteine-rich polypeptide, produced by the salivary gland of the medicinal leech, which is now produced as a recombinant molecule.

Hirudin binds tightly to thrombin at thrombin's accessory binding site and acts as a thrombin antagonist.

Recombinant hirudin (Lepirudan or Refludan®) is recently FDA-approved for use in patients with heparin-induced thrombocytopenia/thrombosis syndromes. In general, monitoring of patients on this therapy is done by following the aPTT. However, the PT is also affected, making initiation of warfarin therapy difficult. Lepirudan accumulates with renal insufficiency, and about 40% of patients on long-term therapy will develop antibodies directed against the hirudin:thrombin complex. These antibodies tend to develop after 7-10 days of therapy and increase the anti-thrombotic effect of the drug.

Other synthetic thrombin inhibitors, such as argatroban (novastan), and Xa inhibitors are in various stages of development as new anti-thrombotic agents.





AAPS PharmSciTech 2000; 1 (1) article 3 (http://www.pharmscitech.com)

# The Stabilization and Release of Hirudin from Liposomes or Lipid-Assemblies Coated with Hydrophobically Modified Dextran

Submitted: January 10, 2000; Accepted: March 1, 2000

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<sup>1</sup>Center for Pharmaceutical Science & Technology, College of Pharmacy, University of Kentucky, Lexington, Kentucky 40536-0082

<sup>2</sup>Center for Bioengineering, University of Washington, Seattle, Washington 98195

**ABSTRACT** Hirudin is a 65– amino acid peptide and the most potent and specific known inhibitor of thrombin ( $K_i = 0.2 \text{ pM}$ ). The short elimination half-life of hirudin from the body (1 hour) necessitates the use of a sustained and controlled delivery system.

A proliposome method was used to entrap hirudin in liposomes coated with palmitoyl dextran-coated liposomes and lipid-assemblies. In vitro release studies of hirudin were performed using the lipid systems enclosed in dialysis membranes or deposited in the pores of a vascular graft. The activity of hirudin and released hirudin was measured using a thrombin chromogenic substrate assay.

Entrapment efficiencies of hirudin in lipid-assemblies approached 100%, however, the release of hirudin from these systems was rapid with 90% released in 17 hours. Entrapment efficiencies of hirudin in coated-liposomes ranged from 5% to 55% and were dependent on several variables. Palmitoyl dextran— coated-liposomes showed a burst of 30% hirudin released in 5 hours with an additional 10% to 35% released over the next 600 hours. In all samples, 30-40% of the hirudin remained associated with the lipid-systems even after 600 hours. The released hirudin retained only 33% of its ability to inhibit thrombin when released from uncoated liposomes. However, hirudin retained 95% of its thrombin inhibitory activity when released from palmitoyl dextran—coated liposomes.

Coated liposomes were found to stabilize hirudin and result in greater retention of hirudin's ability to inhibit thrombin's enzymatic activity, although the mechanism is not yet understood.

**KEYWORDS:** hirudin, stabilization, in vitro release, liposomes, thrombin, dextran, vascular graft

#### INTRODUCTION

Hirudin, a 65- amino acid peptide (MW 7000), is the most potent and specific known inhibitor of thrombin  $(K_i = 0.2 \text{ pM})$ . It was originally isolated from medicinal leeches (*Hirudo medicinalis*) in the late 1950s, but can now be made by recombinant techniques. Recombinant hirudin (REVASC<sup>TM</sup>) has recently been approved in Europe for the prevention of deep-vein thrombosis following knee and hip replacement surgery. The short elimination half-life of hirudin from the body (1 hour) necessitates the use of a sustained and controlled delivery system. Hirudin has been considered as an alternative to heparin for a variety of reasons [1-3]. Other investigators have looked at ways to retard its rapid elimination from the blood, including coupling it to high molecular weight carriers such as dextran [4]. The chemical immobilization of hirudin on polymer surfaces for use as thromboresistant biomaterials has been investigated [5]. Oral delivery of hirudin via liposome systems has also been studied [6].

In this work, hirudin was encapsulated into two different lipid delivery systems: coated-liposomes and lipid-assemblies. The lipid delivery systems were composed of phospholipids combined with one of two hydrophobically modified polysaccharides, either palmitoyl-dextran (PalD) or palmitoyl-dextran phosphate (PalDP). In an aqueous environment, these hydrophobically modified polysaccharides (ie, conjugates) self-associate to form hydrophobic

# **WEST Search History**

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E: Tuesday, May 25, 2004

•	<u>Set</u> Name	Query	Hit Count
	DB=PC	PB, USPT, USOC, EPAB, JPAB, DWPI, TDBD; THES=ASSIGNEE; PLUR=YES; OP=ADJ	
	L8	(hydrophob\$ or surfactant or Amphiphilic) same (aqueous same two adj phase) and (fusion or chimer\$)	57
	L7	(hydrophob\$ or surfactant or Amphiphilic) same (aqueous same two adj phase) same (fusion or chimer\$)	2
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	L2	5304310.pn.	2
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Search Results - Record(s) 1 through 57 of 57 returned.

Document ID: US 20040023379 A1

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8: Entry 1 of 57

File: PGPB

Feb 5, 2004

B-DOCUMENT-NUMBER: 20040023379

B-FILING-TYPE: new

MENT-IDENTIFIER: US 20040023379 A1

E: Antisense modulation of hepatoma-derived growth factor expression

ICATION-DATE: February 5, 2004

NTOR-INFORMATION:

CITY STATE COUNTRY RULE-47

Carlsbad nett, C. Frank CA US ie, Kenneth W. Del Mar CA US

'L-CURRENT: 435/375; 514/44, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWAC	Draww Desc	Image
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2. Document ID: US 20030211296 A1

8: Entry 2 of 57 File: PGPB Nov 13, 2003

B-DOCUMENT-NUMBER: 20030211296

B-FILING-TYPE: new

MENT-IDENTIFIER: US 20030211296 A1

E: Identification card printed with jet inks and systems and methods of making same

ICATION-DATE: November 13, 2003

NTOR-INFORMATION:

CITY STATE COUNTRY RULE-47

Andover es, Robert MA US Daoshen Boxborough MA US

lloux, Dennis Westminster MA US

L-CURRENT: 428/195.1; 503/200



#### 3. Document ID: US 20030191040 A1

L8: Entry 3 of 57

File: PGPB

Oct 9, 2003

PUB-DOCUMENT-NUMBER: 20030191040

GPUB-FILING-TYPE: new

CUMENT-IDENTIFIER: US 20030191040 A1

TLE: Liquid cleaning compositions and their use

JBLICATION-DATE: October 9, 2003

VENTOR-INFORMATION:

AME STATE COUNTRY RULE-47

driaanse, Arend Jan Vlaardingen NL an Dijk, Willem Robert Vlaardingen NL age, Ronald Vlaardingen NL

S-CL-CURRENT: 510/267; 510/392, 510/530

Full	Title	Citation	Front	Review	Classification	Date Reference	Sequences	Attachments	Claims	KMC	Drawi Desc	Image
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## 4. Document ID: US 20030162224 A1

L8: Entry 4 of 57

File: PGPB

Aug 28, 2003

SPUB-DOCUMENT-NUMBER: 20030162224

PUB-FILING-TYPE: new

CUMENT-IDENTIFIER: US 20030162224 A1

TLE: Characterization of molecules

JBLICATION-DATE: August 28, 2003

IVENTOR-INFORMATION:

AME CITY STATE COUNTRY RULE-47

hait, Arnon Bay Village OH US aslavsky, Boris Solon OH US

S-CL-CURRENT: 435/7.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draww Desc	Image
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L8: Entry 5 of 57

File: PGPB

Jul 31, 2003

PUB-DOCUMENT-NUMBER: 20030143700

PUB-FILING-TYPE: new

CUMENT-IDENTIFIER: US 20030143700 A1

TLE: Methods for producing optically active alcohols

BLICATION-DATE: July 31, 2003

JENTOR-INFORMATION:

MECITY STATE COUNTRY RULE-47

mamoto, Hiroaki Ibaraki JP da, Momoko Ibaraki JP n, Ritsuzui Niigata JP Niigata matani, Takeshi

-CL-CURRENT: 435/120; 435/155

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draww Desc	Image
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6. Document ID: US 20030134325 A1

L8: Entry 6 of 57

File: PGPB

JP

Jul 17, 2003

PUB-DOCUMENT-NUMBER: 20030134325

PUB-FILING-TYPE: new

CUMENT-IDENTIFIER: US 20030134325 A1

TLE: Modified phycobilisomes and uses therefore

BLICATION-DATE: July 17, 2003

JENTOR - INFORMATION:

MECITY ; STATE COUNTRY RULE-47

bicciotti, Roger S. Montclar ЦИ US

-CL-CURRENT: 435/7.1; 435/317.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawi Desc Image
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## 7. Document ID: US 20030109019 A1

L8: Entry 7 of 57

File: PGPB

Jun 12, 2003

PUB-DOCUMENT-NUMBER: 20030109019

PUB-FILING-TYPE: new

CUMENT-IDENTIFIER: US 20030109019 A1

TLE: Mutant-type lipases and applications thereof

BLICATION-DATE: June 12, 2003

Apr 24, 2003

VTOR-INFORMATION:

CITY STATE COUNTRY RULE-47

g, Rey-Chang Kaohsiung TW

, Shu-Jen Taipei TW , Jei-Fu Taipei TW

L-CURRENT: 435/198; 435/252.3, 435/320.1, 435/69.1, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw, Desc	Image
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8. Document ID: US 20030087375 A1

B: Entry 8 of 57 May 8, 2003

B-DOCUMENT-NUMBER: 20030087375

B-FILING-TYPE: new

MENT-IDENTIFIER: US 20030087375 A1

E: Sperm specific proteins

ICATION-DATE: May 8, 2003

#### NTOR-INFORMATION:

, ,	CITY	STATE	COUNTRY	RULE-47
Zhonglin	Charlottesville	VA	US	·
, John C.	Charlottesville	VA	US	
s, Friederike L.	Cary	NC	US	
ty, Jagathpala	Charlottesville	VA	US	,
owicz, Michael J.	Charlottesville	VA	US	

L-CURRENT: 435/69.1; 424/146.1, 435/183, 435/320.1, 435/325, 536/23.2

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	9.	Document ID: US 20030077693 A							**************************************

File: PGPB

B-DOCUMENT-NUMBER: 20030077693

B-FILING-TYPE: new

3: Entry 9 of 57

MENT-IDENTIFIER: US 20030077693 A1

E: Use of p97 and iron binding proteins as diagnostic and therapeutic agents

ICATION-DATE: April 24, 2003

NTOR-INFORMATION:

CITY STATE COUNTRY RULE-47

eries, Wilfred A. South Surrey CA er, Patrick L. Vancouver CA

henberger, Sylvia

Epalinges

CH

d, Michael R.

Vancouver

CA

ada, Tatsuo

Tokyo

JP

nard, Malcolm

Vancouver

CA

CL-CURRENT: <u>435/68.1</u>; <u>435/7.23</u>, <u>514/8</u>

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KUNC	Drawi Desc	Image
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8: Ent	ry 10	0 of 57					Fil	e: PGPB				Apr 24,	2003

UB-DOCUMENT-NUMBER: 20030077435

UB-FILING-TYPE: new

UMENT-IDENTIFIER: US 20030077435 A1

LE: Novel coated membranes and other articles

LICATION-DATE: April 24, 2003

ENTOR-INFORMATION:

CITY STATE COUNTRY RULE-47

rkoudian, John ce, Neil P.

Carlisle

Merrimack

ΜA

NH

US

US

CL-CURRENT: 428/304.4; 428/315.5

Title Citation Front Review Classification Date Reference Sequences Attachments Claims KWC Draw Desc

11. Document ID: US 20030059402 A1

-8: Entry 11 of 57

File: PGPB

Mar 27, 2003

UB-DOCUMENT-NUMBER: 20030059402

UB-FILING-TYPE: new

UMENT-IDENTIFIER: US 20030059402 A1

LE: Aquespheres, their preparation and uses thereof

LICATION-DATE: March 27, 2003

ENTOR-INFORMATION:

STATE COUNTRY RULE-47

Highland Park , Tuo NJ US Plainsboro , Hua NJ US , Jiahao Brooklyn NY US

CL-CURRENT: 424/93.2; 264/4.1, 424/491, 424/493, 424/85.5

Review Classification Date Reference Sequences Attachments Claims KMC 12. Document ID: US 20030027354 A1 3: Entry 12 of 57 File: PGPB Feb 6, 2003 B-DOCUMENT-NUMBER: 20030027354 B-FILING-TYPE: new MENT-IDENTIFIER: US 20030027354 A1 E: Device for the analysis of chemical or biochemical specimens, comparative analysis, and ciated analysis process ICATION-DATE: February 6, 2003 NTOR-INFORMATION: CITY STATE COUNTRY RULE-47 , Francois Lyon FR L-CURRENT: 436/178; 422/101, 436/177 Front Review Classification Date Reference Sequences Attachments Claims KOMO Draw Desc 13. Document ID: US 20020198127 A1 3: Entry 13 of 57 File: PGPB Dec 26, 2002 B-DOCUMENT-NUMBER: 20020198127 B-FILING-TYPE: new

MENT-IDENTIFIER: US 20020198127 A1

E: Liquid cleaning compositions and their use

ICATION-DATE: December 26, 2002

VTOR-INFORMATION:

aanse, Arend Jan

CITY STATE COUNTRY RULE-47 Vlaardingen NL

Dijk, Willem Robert Vlaardingen NL, Ronald Vlaardingen NL

ndijk, Marja Vlaardingen NL

man, Simon Marinus Vlaardingen NL

-CURRENT: 510/305; 510/306, 510/392

Title Citation Front Review Classification Date Reference Sequences Attachments Claims Draw Desc

Document ID: US 20020192173 A1

L8: Entry 14 of 57

File: PGPB

Dec 19, 2002

PUB-DOCUMENT-NUMBER: 20020192173

PUB-FILING-TYPE: new

CUMENT-IDENTIFIER: US 20020192173 A1

TLE: Anhydrous treatment compositions for the delivery of reactive agents to amino-acid based

bstrates

BLICATION-DATE: December 19, 2002

IVENTOR-INFORMATION:

AME

CITY

STATE COUNTRY

RULE-47

lenn, Robert Wayne JR.

Surrey

 $\mathsf{OH}$ 

GB

orgerson, Peter Marte

Washington Courthouse

US

-CL-CURRENT: 424/70.1

Full Title Citation	n Front Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw, Desc Image

15. Document ID: US 20020178650 A1

L8: Entry 15 of 57

File: PGPB

Dec 5, 2002

PUB-DOCUMENT-NUMBER: 20020178650

PUB-FILING-TYPE: new

CUMENT-IDENTIFIER: US 20020178650 A1

TLE: Low temperature stable diesel oil/alcohol mixtures

BLICATION-DATE: December 5, 2002

VENTOR-INFORMATION:

AME

CITY

STATE

COUNTRY

RULE-47

cura, Michio

Kanata

CA

anciulescu, Maria

ogan, Edward

Orleans

Ottawa

CA

ÇA

-CL-CURRENT: 44/438

16. Document ID: US 6670438 B1

L8: Entry 16 of 57

File: USPT

Dec 30, 2003

-PAT-NO: 6670438

CUMENT-IDENTIFIER: US 6670438 B1

TLE: Methods, compositions, and biomimetic catalysts for in vitro synthesis of silica,

Page 8 of 26

JP

olysilsequioxane, polysiloxane, and polymetallo-oxanes

ATE-ISSUED: December 30, 2003

**IVENTOR-INFORMATION:** 

AME STATE ZIP CODE COUNTRY

orse; Daniel E. Santa Barbara CA

tucky; Galen D. Goleta CA eming; Timothy D. Summerland CA

ha; Jennifer Goleta CA himizu; Katsuhiko Tochigi

hou; Yan Goleta CA

S-CL-CURRENT: <u>528/21; 423/326, 423/339, 428/364, 428/369, 428/370, 428/402, 435/188.5</u>, <u>528/12</u>,

28/23, 528/39, 528/43

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#### 17. Document ID: US 6635224 B1

L8: Entry 17 of 57 File: USPT Oct 21, 2003

S-PAT-NO: 6635224

DCUMENT-IDENTIFIER: US 6635224 B1

ITLE: Online monitor for polymer processes

ATE-ISSUED: October 21, 2003

**VENTOR-INFORMATION:** 

AME STATE ZIP CODE COUNTRY

ui; John YupengNiskayunaNYilva; James ManioClifton ParkNYarnahan; James ClaudeSchenectadyNYayer; Hugh HarrisonMt. VernonIN

S-CL-CURRENT: <u>422/62; 422/68.1, 422/82.01, 422/82.02, 422/82.05, 422/82.06, 422/82.07, 22/82.08, 422/82.09, 436/34, 436/43, 436/52, 436/85</u>

Full Title Citation Front Review Classification Date Reference Section 1 and 1 Claims KWC Draw Desc Image

## ☐ 18. Document ID: US 6562788 B1

L8: Entry 18 of 57 File: USPT May 13, 2003

S-PAT-NO: 6562788

CUMENT-IDENTIFIER: US 6562788 B1

ITLE: Topoisomerase II inhibitor

E-ISSUED: May 13, 2003

ENTOR-INFORMATION:

COUNTRY CITY ZIP CODE STATE

FR cmandjian; Serge Meudon

Ivry sur Seine FR ere-Gallois; Valerie

Bourg la Reine balen; Frederic FR

CL-CURRENT: 514/12; 530/324

Full	Title	Citation	Front	Review	Classification	Date	Reference	**************************************	14 11	Claims	KOMO	Draw, D	)esc	gemi
										S-111-110		<i>'</i>		,
									•					

File: USPT L8: Entry 19 of 57 May 6, 2003

PAT-NO: 6559284

UMENT-IDENTIFIER: US 6559284 B1

LE: Process for purifying a protein

E-ISSUED: May 6, 2003

ENTOR-INFORMATION:

ΜE CITY STATE ZIP CODE COUNTRY

eland; Hans Bromma SE strom; Lena Stockholm SE

rsson; Josefine Lund SE

erneld; Folke Malmo SE

CL-CURRENT: 530/359; 530/412, 530/421, 530/422, 530/424

Full	Title	Citation	Front	Review	Classification	Date Refere	nee	Cla	aims KWMC	Drawl Desc	Image
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L8: Entry 20 of 57 File: USPT Jan 14, 2003

PAT-NO: 6506879

UMENT-IDENTIFIER: US 6506879 B1

LE: Purified Apo A and Apo E compounds and methods for using them

E-ISSUED: January 14, 2003

ENTOR-INFORMATION:

STATE CITY ZIP CODE COUNTRY

eland; Hans Bromma SE nander; Lena Nacka-Strand SE

L-CURRENT: <u>530/359</u>; <u>435/69.1</u>, <u>435/71.1</u>

				Y
21. Document ID: US 6455494 B1		######################################		99700000 Charles and Art of the Section of the Sect
Entry 21 of 57	File: USPT		Sep 24,	2002

MENT-IDENTIFIER: US 6455494 B1

E: Use of p97, and iron binding proteins as diagnostic and therapeutic agents

-ISSUED: September 24, 2002

NTOR-INFORMATION:

	CITY	STATE	ZIP CODE	COUNTRY
eries; Wilfred A.	South Surrey			CA
er; Patrick L.	Vancouver	•	•	CA
enberger; Sylvia	Epalinges			СН
; Michael R.	Vancouver	•		CA
da; Tatsuo	Tokyo			JP
ard; Malcolm	Vancouver			CA

Full	Titl∈	Citation	Front	Review	Classification	Date	Reference		Claims	KWIC	Draw. Desc	Image
									-			

22. Document ID. Of

: Entry 22 of 57

File: USPT

May 7, 2002

AT-NO: 6384008

MENT-IDENTIFIER: US 6384008 B1

: Non-aqueous liquid detergent compositions containing ethoxylated quaternized amine clay ounds

ISSUED: May 7, 2002

ITOR-INFORMATION:

CITY

STATE

ZIP CODE

COUNTRY

y; Diane

Cincinnati

ОН

-CURRENT: <u>510/414; 510/276, 510/289, 510/299, 510/300, 510/304, 510/320, 510/332, 510/338,</u> 41, <u>510/351, 510/357, 510/371, 510/374, 510/392, 510/400, 510/407, 510/432, 510/499,</u> 04 23. Document ID: US 6361775 B1

: Entry 23 of 57

File: USPT

Mar 26, 2002

T-NO: 6361775

MENT-IDENTIFIER: US 6361775 B1

: Compositions and methods for vaccines comprising .alpha.-galactosyl epitopes

ISSUED: March 26, 2002

ITOR-INFORMATION:

CITY

STATE

ZIP CODE

COUNTRY

li; Uri

Wayne

PA

k; Patricia M.

West Trenton

NJ

-CURRENT: <u>424/184.1</u>; <u>424/155.1</u>, <u>424/156.1</u>, <u>424/218.1</u>, <u>424/277.1</u>, <u>424/278.1</u>, <u>424/816</u>,

87.1

Full little Citation	Front Review Classification	Date Reference		Claims	KWIC	Drawu Desc	Image
	•		,				
						/	

24. Document ID: US 6342389 B1

: Entry 24 of 57

File: USPT

Jan 29, 2002

T-NO: 6342389

MENT-IDENTIFIER: US 6342389 B1

: Modified phycobilisomes and uses therefore

ISSUED: January 29, 2002

ITOR - INFORMATION:

CITY

STATE

ZIP CODE

COUNTRY

cciotti; Roger S.

Montclair

ЦИ

07042

-CURRENT: <u>435/317.1; 435/4, 435/7.1, 435/7.2, 435/7.8, 435/963, 436/518, 436/519, 436/524</u>, <u>27</u>, <u>436/536</u>, <u>530/391.3</u>, <u>530/402</u>

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWMC	Draww Desc	Image

25. Document ID: US 6241921 B1

: Entry 25 of 57

File: USPT

Jun 5, 2001

T-NO: 6241921

ENT-IDENTIFIER: US 6241921 B1

: Heterogeneous display elements and methods for their fabrication

Aug 29, 2000

COUNTRY

-ISSUED: June 5, 2001

NTOR-INFORMATION:

CITY STATE ZIP CODE

obson; Joseph M. Newton MA nizawa; Hidekazu Brookline MA

L-CURRENT: 264/1.36; 264/1.7, 264/4.1, 264/437, 264/438

Full Title Citation Front Review Classification Date Reference Sections & Reference Re

File: USPT

8: Entry 26 of 57

AT-NO: 6110745 MENT-IDENTIFIER: US 6110745 A

E: Preparation of lipid-nucleic acid particles using a solvent extraction and direct

ation method

-ISSUED: August 29, 2000

NTOR-INFORMATION:

E CITY STATE ZIP CODE COUNTRY

ng; Yuan-Peng Mountain View CA

errer; Peter Vancouver e; Michael J. Vancouver

L-CURRENT: <u>435/458</u>; <u>264/4.1</u>, <u>424/450</u>, <u>424/93.2</u>, <u>435/320.1</u>, <u>435/325</u>, <u>435/91.1</u>, <u>435/91.31</u>,

44, 536/23.1, 536/24.5

Full Title Citation Front Review Classification Date Reference Service Claims KWC Draw Desc Image

7. Document ID: US 6090921 A

8: Entry 27 of 57 File: USPT Jul 18, 2000

AT-NO: 6090921

MENT-IDENTIFIER: US 6090921 A

E: Process for purifying apolipoprotein a or apolipoprotein e

-ISSUED: July 18, 2000

NTOR-INFORMATION:

CITY STATE ZIP CODE COUNTRY

ge; Stefan Stockholm Lund; Sara Skarpnack S-CL-CURRENT: 530/359; 530/380

Title Citation Front Review Classification Date Reference Claims Drawd Desc

28. Document ID: US 5998588 A

L8: Entry 28 of 57

File: USPT

Dec 7, 1999

S-PAT-NO: 5998588

CUMENT-IDENTIFIER: US 5998588 A

See image for Certificate of Correction \*\*

TLE: Interactive molecular conjugates

ATE-ISSUED: December 7, 1999

IVENTOR - INFORMATION:

AME CITY STATE ZIP CODE COUNTRY

offman; Allan S. Seattle WA tayton; Patrick S. Seattle WA

S-CL-CURRENT: <u>530/402</u>; <u>424/178.1</u>, <u>424/193.1</u>, <u>424/280.1</u>, <u>424/78.08</u>, <u>424/94.1</u>, <u>530/350</u>, 30/387.1, 530/391.1, 530/395, 530/399, 530/403, 530/404, 530/405, 530/406

Title Citation Front Review Classification Date Reference Claims KWC Drawn Desc

29. Document ID: US 5993851 A

L8: Entry 29 of 57

File: USPT

Nov 30, 1999

S-PAT-NO: 5993851

CUMENT-IDENTIFIER: US 5993851 A

TLE: Method for preparing biphasic multilamellar lipid vesicles

TE-ISSUED: November 30, 1999

WENTOR-INFORMATION:

ME CITY STATE ZIP CODE COUNTRY

oldvari; Marianna Saskatoon CA

-CL-CURRENT: 424/450; 264/4.1, 264/4.3, 264/4.32, 264/4.6, 424/1.21, 424/417, 424/85.7,

4/9.321, 424/9.51

Citation Front Review Classification Date Reference Contract Contra Claims Drawi Desc

Document ID: US 5990081 A

L8: Entry 30 of 57 File: USPT Nov 23, 1999 -PAT-NO: 5990081

CUMENT-IDENTIFIER: US 5990081 A

TLE: Purified APO A and APO E compounds and methods for using them

TE-ISSUED: November 23, 1999

JENTOR - INFORMATION:

ME · CITY

STATE

ZIP CODE

COUNTRY

eland; Hans

Bromma

SE

mander; Lena

Nacka-Strand

SE

-CL-CURRENT: <u>514/2; 424/406, 435/69.1, 435/69.6, 514/20, 514/21, 530/359, 530/361, 530/402,</u> 0/<u>421, 530/427</u>

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31. Document ID: US 5981194 A

L8: Entry 31 of 57

File: USPT

Nov 9, 1999

-PAT-NO: 5981194

CUMENT-IDENTIFIER: US 5981194 A

TLE: Use of p97 and iron binding proteins as diagnostic and therapeutic agents

TE-ISSUED: November 9, 1999

/ENTOR-INFORMATION:

ME	CITY	STATE	ZIP CODE	COUNTRY
fferies; Wilfred A.	South Surrey			CA
Geer; Patrick L.	Vancouver			CA
thenberger; Sylvia	Epalinges			СН
od; Michael'R.	Vancouver	•		CA
mada; Tatsuo	Tokyo			JP
nnard; Malcolm	Vancouver	-		CA

-CL-CURRENT: <u>435/7.1</u>; <u>530/387.1</u>

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32. Document ID: US 5907035 A

L8: Entry 32 of 57

File: USPT

May 25, 1999

PAT-NO: 5907035

'UMENT-IDENTIFIER: US 5907035 A

LE: Aqueous two-phase metal affinity partitioning protein purification system

-ISSUED: May 25, 1999

VTOR-INFORMATION:

CITY

STATE

ZIP CODE

COUNTRY

n; Martin R.

Boulder

CO

L-CURRENT: 530/412; 530/380, 530/385

	Date Reference	Claims	OMC   Draw Desc	mage

3: Entry 33 of 57

File: USPT

Mar 16, 1999

Mar 9, 1999

AT-NO: 5882520

MENT-IDENTIFIER: US 5882520 A

ee image for Certificate of Correction \*\*

E: Use of arabinogalactan in aqueous two phase extractions

-ISSUED: March 16, 1999

NTOR-INFORMATION:

CITY

STATE

ZIP CODE

COUNTRY

ards; Geoffrey N.

Missoula

MT

ey-Harris; Merilyn

Missoula

MT

File: USPT

L-CURRENT: <u>210/623; 210/634, 210/639, 252/364, 435/183, 435/267, 435/816</u>

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	KWC	Draw. Desc	Image
<b>-</b> 34	4. ]	Document	t ID:	US 587	9675 A							

AT-NO: 5879675

3: Entry 34 of 57

MENT-IDENTIFIER: US 5879675 A

ee image for <u>Certificate of Correction</u> \*\*

E: Compositions and methods for vaccines comprising .alpha.-galactosyl epitopes

-ISSUED: March 9, 1999

NTOR-INFORMATION:

CITY

STATE

ZIP CODE

COUNTRY

li; Uri

Wayne

PΑ

k; Patricia M.

West Trenton

NJ

L-CURRENT: <u>424/93.1; 424/155.1</u>, <u>424/156.1</u>, <u>424/159.1</u>, <u>424/184.1</u>, <u>424/218.1</u>, <u>424/277.1</u>, 278.1, 424/816

Classification Date Reference Claims Citation Front Review Drawa Desc 35. Document ID: US 5853755 A

**\_8:** Entry 35 of 57

File: USPT

Dec 29, 1998

Draw Desc

Claims

PAT-NO: 5853755

UMENT-IDENTIFIER: US 5853755 A

LE: Biphasic multilamellar lipid vesicles

E-ISSUED: December 29, 1998

ENTOR-INFORMATION:

Title

CITY ZIP CODE STATE COUNTRY

dvari; Marianna Saskatoon CA

Review Classification Date Reference

 $ext{CL-CURRENT: } 424/450; 264/4.1, 264/4.3, 264/4.32, 264/4.6, 424/1.21, 424/417, 424/9.321,$ 

/9.51, 428/402.2

36. Document ID: US 5723310 A

Citation Front

L8: Entry 36 of 57 File: USPT Mar 3, 1998

PAT-NO: 5723310

UMENT-IDENTIFIER: US 5723310 A

See image for Certificate of Correction \*\*

LE: Aqueous multiple-phase isolation of polypeptide

E-ISSUED: March 3, 1998

ENTOR-INFORMATION:

CITY STATE ZIP CODE COUNTRY lder; Stuart Belmont CA t; Roger Burlingame CA CA

ter; Philip San Lorenzo z; John Redwood City CA

fsnyder; David San Mateo CA

CL-CURRENT: 435/69.1; 435/70.1, 435/803, 435/804, 530/399, 530/402, 530/422

Citation Front Review Classification Date Reference Claims KMC Draw, Desc

Document ID: US 5705385 A 37.

8: Entry 37 of 57

File: USPT

Jan 6, 1998

PAT-NO: 5705385

JMENT-IDENTIFIER: US 5705385 A

E: Lipid-nucleic acid particles prepared via a hydrophobic lipid-nucleic acid complex

ermediate and use for gene transfer

C-ISSUED: January 6, 1998

CNTOR-INFORMATION:

eler; Jeffery J.

CITY STATE ZIP CODE COUNTRY ly; Marcel B. Bowen Island CA ng; Yuan-Peng Vancouver CA mer; Dorothy L. Vancouver CA

Richmond

CL-CURRENT: 435/320.1; 264/4.1, 536/23.1

38. Document ID: US 5695760 A

8: Entry 38 of 57

File: USPT

Dec 9, 1997

CA

PAT-NO: 5695760

JMENT-IDENTIFIER: US 5695760 A

E: Modified anti-ICAM-1 antibodies and their use in the treatment of inflammation

I-ISSUED: December 9, 1997

INTOR-INFORMATION:

CITY STATE ZIP CODE COUNTRY nes; Ronald Bertrand Pound Ridge NYoff; Paul Edward Watertown rley; Bret Allen New Milford er; David Stuart Danbury

'L-CURRENT: 424/178.1; 424/181.1, 530/388.85, 530/391.1

39. Document ID: US 5567567 A

8: Entry 39 of 57

File: USPT

Oct 22, 1996

AT-NO: 5567567

MENT-IDENTIFIER: US 5567567 A

ITLE: Method for producing encapsulated toner for heat-and-pressure fixing and encapsulated oner obtained thereby

ATE-ISSUED: October 22, 1996

**VENTOR-INFORMATION:** 

CITY AME ZIP CODE STATE COUNTRY

kiyama; Koji Wakayama JP

amaguchi; Takashi Arida JP ameyama; Koji Wakayama-ken JP

himokusa; Koji Wakayama JP

S-CL-CURRENT: 430/110.2

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWWC	Drawl Desc
	THE STATE OF		THUIS.	Mentenn		O GIR	Nererence		3.2.300.000 (8.00.000)	U-laimsi	KUUIL	Drawl Desc

Document ID: US 5407810 A 40.

L8: Entry 40 of 57 File: USPT Apr 18, 1995

S-PAT-NO: 5407810

DCUMENT-IDENTIFIER: US 5407810 A

ITLE: Aqueous multiple-phase isolation of polypeptide

ATE-ISSUED: April 18, 1995

**VENTOR-INFORMATION:** 

AME CITY ZIP CODE STATE COUNTRY

uilder; Stuart Belmont · CA art; Roger Burlingame CA ester; Philip San Lorenzo CA gez; John Redwood City CA eifsnyder; David

G-CL-CURRENT: <u>435/69.1</u>; <u>435/804</u>, <u>530/399</u>, <u>530/412</u>, <u>530/422</u>, <u>530/808</u>

San Mateo

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		-314-1(10)		17.501500	Classification	Date	Reference			Claims	KWIC	Draw Desc	lmag

CA

41. Document ID: US 5244803 A

L8: Entry 41 of 57 File: USPT Sep 14, 1993

S-PAT-NO: 5244803

CUMENT-IDENTIFIER: US 5244803 A

TLE: Process for preparing optically active 3-phenylglycidic acid esters

ATE-ISSUED: September 14, 1993

**VENTOR-INFORMATION:** 

ZIP CODE CITY STATE COUNTRY ME

Takatsuki JP ori; Takao

Osaka ırutani; Toshiyuki JP

Osaka akao; Akio JP

sujimura; Atsuhiko Takatsuki JР

nibatani; Takeji Kobe JP

-CL-CURRENT: 435/280; 435/123, 435/824, 435/832, 435/840, 435/843, 435/850, 435/859, 435/863,

5/874, 435/878, 435/910, 435/921, 435/938, 540/491

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	KOMC	Drawi Desc	Image
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### 42. Document ID: US 5196470 A

L8: Entry 42 of 57

File: USPT

Mar 23, 1993

-PAT-NO: 5196470

CUMENT-IDENTIFIER: US 5196470 A

TLE: Water soluble alcohol based nonwoven binder for water swellable, soluble or sensitive

bers

TE-ISSUED: March 23, 1993

**VENTOR-INFORMATION:** 

ME CITY STATE ZIP CODE COUNTRY

nderson; Stewart C. Eden Prairie MN

almsten; Richard Vadnais Heights MN

-CL-CURRENT: 524/379; 524/388, 524/389, 528/489

		SISSEMBER OF	35115	Reference		Claims	KUUL	Draw, Desc	Image

#### 43. Document ID: US 4634540 A

L8: Entry 43 of 57

File: USPT

Jan 6, 1987

-PAT-NO: 4634540

CUMENT-IDENTIFIER: US 4634540 A

TLE: Composition and method for modifying and augmenting recovery of hydrocarbons from

drocarbon-bearing formations

TE-ISSUED: January 6, 1987

VENTOR-INFORMATION:

ME CITY STATE ZIP CODE COUNTRY

pp; Richard C. Warren NJ07060 -CURRENT: 507/266; 166/270, 208/143, 507/269, 507/271, 507/273, 507/935

Claims KWC Draw Desc Front Review Classification Date Reference Citation Title

44. Document ID: US 4539235 A

: Entry 44 of 57

File: USPT

Sep 3, 1985

T-NO: 4539235

ENT-IDENTIFIER: US 4539235 A

: Method for treating wood

ISSUED: September 3, 1985

TOR-INFORMATION:

ZIP CODE STATE COUNTRY CITY

ıns; Albert V.

Fairview Park

OH

s; Richard W.

Lakewood

OH

J-CURRENT: 427/440; 106/18.31, <u>106/18.35</u>, <u>428/541</u>, <u>514/494</u>, <u>514/496, 514/498, 514/502, </u> 03, 514/505, 514/89

Claims KWMC Draww Desc

45. Document ID: US 4507152 A

: Entry 45 of 57

File: USPT

Mar 26, 1985

T-NO: 4507152

MENT-IDENTIFIER: US 4507152 A

: Fungicidal and insecticidal compositions for treating wood

ISSUED: March 26, 1985

TOR-INFORMATION:

CITY

STATE

ZIP CODE

COUNTRY

ins; Albert V.

Fairview Park

OH

s; Richard W.

Lakewood

OH

J-CURRENT: 106/18.31; 106/18.35, <u>514/494, 514/496, 514/498, 514/502, 514/503, 514/505</u>,

Citation Front Review Classification Date Reference Claims Draw Desc Image

Document ID: US 4443357 A

: Entry 46 of 57

File: USPT

Apr 17, 1984

T-NO: 4443357

ENT-IDENTIFIER: US 4443357 A

e image for Certificate of Correction \*\*

: Hydrophobic silica or silicate, compositions containing the same and methods for making sing the same

ISSUED: April 17, 1984

TOR-INFORMATION:

CITY

STATE

ZIP CODE

COUNTRY

ney; James E.

Eagan

MN

; Thomas R.

Stillwater

MN

-CURRENT: 516/117; 106/491, 162/158

Title Citation Front Review Classification Date Reference

47. Document ID: US 4248698 A

: Entry 47 of 57

File: USPT

Feb 3, 1981

T-NO: 4248698

ENT-IDENTIFIER: US 4248698 A

e image for Certificate of Correction \*\*

: Coal recovery process

ISSUED: February 3, 1981

TOR-INFORMATION:

CITY

STATE

ZIP CODE

COUNTRY

r, Jr.; Douglas V.

Lafayette

NY

-CURRENT: 44/551; 209/5, 241/15, 241/16, 44/556, 44/574, 44/595, 44/624

Title Citation Front Review Classification Date Reference Full Claims KWC Draw Desc Image 48. Document ID: US 3988261 A

: Entry 48 of 57

File: USPT

Oct 26, 1976

T-NO: 3988261

ENT-IDENTIFIER: US 3988261 A

e image for Certificate of Correction \*\*

: Frozen organic peroxide emulsion

ISSUED: October 26, 1976

**FOR-INFORMATION:** 

er; James A.

ens; Henry C.

Hoozer; John F.

COUNTRY

CITY STATE Akron OH Akron OHBethel Park

J-CURRENT: 502/160; 252/186.26, 526/202, 526/348

Full	Title	Citation Front	Review	Classification	Date	Reference	Claims	KOMO	Draw Desc	Image

49. Document ID: NZ 514891 A, WO 200058342 A1, AU 200035621 A, EP 1163260 A1, NO 200104534 A, KR 2001108400 A, CN 1357005 A, JP 2002543766 W

: Entry 49 of 57

File: DWPI

PA

ZIP CODE

Oct 31, 2003

INT-ACC-NO: 2000-686858

NT-WEEK: 200380

RIGHT 2004 DERWENT INFORMATION LTD

: Isolation and purification of proteins or cells in aqueous two-phase systems, comprises ning a desired protein or a cell to a targeting protein capable of isolating the protein ell into one of the phases

ITOR: FAGERSTROEM, R; KULA, M ; LINDER, M; NAKARI-SETAELAE, T ; PENTTILAE, M ; SELBER, K ; JELD, F; FAGERSTROM, R; NAKARI-SETALA, T; PENTTILA, M

RITY-DATA: 1999FI-0001782 (August 20, 1999), 1999FI-0000667 (March 25, 1999)

IT-FAMILY:

<b>40</b>	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
14891 A	October 31, 2003		000	C07K001/14
00058342 A1	October 5, 2000	: <b>E</b>	109	C07K001/14
00035621 A	October 16, 2000		000	C07K001/14
163260 A1	December 19, 2001	E	000	C07K001/14
00104534 A	November 26, 2001		000	C07K000/00
001108400 A	December 7, 2001		000	C07K001/20
357005 A	July 3, 2002		000	C07K001/14
D02543766 W	December 24, 2002	-	112	C12N015/09

L (IPC): B01 D  $\frac{17}{025}$ ; B01 D  $\frac{17}{038}$ ; C07 K  $\frac{0}{00}$ ; C07 K  $\frac{1}{14}$ ; C07 K  $\frac{1}{20}$ ; C07 K  $\frac{14}{37}$ ; C07  $\underline{00}$ ;  $\underline{C12}$   $\underline{N}$   $\underline{1/15}$ ;  $\underline{C12}$   $\underline{N}$   $\underline{1/19}$ ;  $\underline{C12}$   $\underline{N}$   $\underline{1/21}$ ;  $\underline{C12}$   $\underline{N}$   $\underline{5/10}$ ;  $\underline{C12}$   $\underline{N}$   $\underline{9/24}$ ;  $\underline{C12}$   $\underline{N}$   $\underline{15/09}$ ;  $\underline{C12}$   $\underline{N}$   $\underline{15/62}$ ; 21/02; C12 R 1:885

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	KWIC	Drawi Desc	Image
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50. Document ID: US 3814706 A

: Entry 50 of 57

File: USOC

Jun 4, 1974

T-NO: 3814706

ENT-IDENTIFIER: US 3814706 A

E: SILICONE RESINS USED AS SURFACTANTS IN VINYL CHLORIDE FOAM

-ISSUED: June 4, 1974

NTOR-NAME: HOLDSTOCK N; MOELLER R ; SIMONEAU E

L-CURRENT: <u>521/74, 264/50, 516/23, 516/DIG.6, 521/134, 521/86, 521/88, 521/911, 524</u>/<u>145</u>, 285, 524/297, 524/321, 524/569, <u>525/104, 528/10, 528/32, 528/42, 528/43</u>

Claims Review Classification Date Reference Citation Front Drawl Desc 51. Document ID: US 3798189 A

8: Entry 51 of 57

File: USOC

Mar 19, 1974

AT-NO: 3798189

MENT-IDENTIFIER: US 3798189 A ,

E: SILICONE RESINS USED AS SURFACTANTS IN VINYL CHLORIDE FOAM

-ISSUED: March 19, 1974

NTOR-NAME: HOLDSTOCK N; MOELLER R ; SIMONEAU E

L-CURRENT: <u>521/74</u>, <u>264/50</u>, <u>516/23, 516/DIG.6, 521/134, 521/145, 521/86, 521/911, 524/297,</u>  $569, 525/\underline{104}, \underline{528}/\underline{10}, \underline{528}/\underline{32}, \underline{528}/\underline{43}$ 

Front Review Classification Date Reference Claims KWC Draw Desc

52. Document ID: US 3756992 A

8: Entry 52 of 57

File: USOC

Sep 4, 1973

AT-NO: 3756992

MENT-IDENTIFIER: US 3756992 A

E: POLYURETHANE POLYELECTROLYTES AND PROCESS FOR PREPARING SAME

-ISSUED: September 4, 1973

NTOR-NAME: DIETERICH D

L-CURRENT: <u>524/591; 156/331.7, 521/162, 521/163, 521/170, 521/65, 525/428,</u> 525/440,

**453**, 525/456

Review Classification Date Reference Sections Assessment Claims Drawi Desc

Document ID: US 3567512 A

B: Entry 53 of 57

File: USOC

Mar 2, 1971

S-PAT-NO: 3567512

CUMENT-IDENTIFIER: US 3567512 A

TLE: PROCESS FOR THE PURIFICATION OF SUGAR BEET DIFFUSION JUICE

ATE-ISSUED: March 2, 1971

IVENTOR-NAME: LYONS JOHN W; MILES CHARLES E

S-CL-CURRENT: <u>127/48</u>, <u>127/50</u>, <u>426/648</u>

Full   Titl	de Citati	on Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	lmage

54. Document ID: US 3491061 A

L8: Entry 54 of 57

File: USOC

Jan 20, 1970

S-PAT-NO: 3491061

CUMENT-IDENTIFIER: US 3491061 A

TLE: BUFFERING AGENTS IN INTERFACIAL PHOSPHORUS POLYESTER PROCESS

ATE-ISSUED: January 20, 1970

IVENTOR-NAME: MILLICH FRANK; CARRAHER CHARLES E

S-CL-CURRENT: <u>528/169</u>, <u>528/168</u>, <u>528/223</u>, <u>528/399</u>, <u>528/400</u>

Full Tit	e Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw, Desc	Image

55. Document ID: US 3288729 A

L8: Entry 55 of 57

File: USOC

Nov 29, 1966

S-PAT-NO: 3288729

CUMENT-IDENTIFIER: US 3288729 A

TLE: Open-cell polyvinyl chloride foam

TE-ISSUED: November 29, 1966

IVENTOR-NAME: DEAL KENNETH M; WHITMAN PETER A; WATERMAN RAYMOND R

-CL-CURRENT: 521/74, 264/50, 264/DIG.13, 264/DIG.60, 521/145, 521/82, 521/88, 521/911, 1/93, 524/143, 524/292, 524/296, 524/317, 524/394, 524/397, 987/209

Full	Title	Citation	Front	Review	Classification	Date	Reference	31311137		Claims	KWIC	Draw Desc	Image
						`			,				

56. Document ID: US 2834052 A L8: Entry 56 of 57

File: USOC

May 13, 1958

S-PAT-NO: 2834052

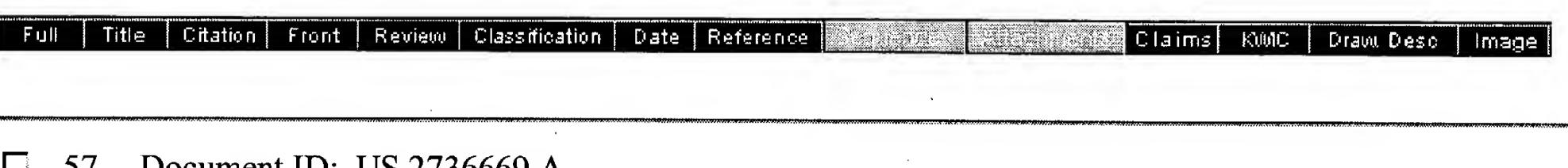
CUMENT-IDENTIFIER: US 2834052 A

TTLE: Method of making mold masters

ATE-ISSUED: May 13, 1958

IVENTOR-NAME: HUNN JAMES V

S-CL-CURRENT: 205/70; 264/227, 264/DIG.60, 425/DIG.29



57. Document ID: US 2736669 A

L8: Entry 57 of 57

File: USOC

Feb 28, 1956

S-PAT-NO: 2736669

CUMENT-IDENTIFIER: US 2736669 A

TLE: Method of activating and esterifying the surface of finely divided particles of silica

ving surface silanol groups

TE-ISSUED: February 28, 1956

IVENTOR-NAME: GOEBEL MAX T

-CL-CURRENT: <u>427/220</u>; <u>106/481</u>, <u>106/490</u>, <u>252/384</u>, <u>427/314</u>

ar Generate Collection Print Fwd	Refs Bkwd Refs Generate OACS
l'erm	Dogumental
URFACTANT	Documents 238723
URFACTANTS	153087
MPHIPHILIC	9176
MPHIPHILICS	23
QUEOUS	996521
.Q	305869
WO	7609536
WOES	46

((HYDROPHOB\$ OR SURFACTANT OR AMPHIPHILIC) SAME	
(AQUEOUS SAME TWO ADJ PHASE) AND (FUSION OR	57
CHIMER\$)).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	

There are more results than shown above. Click here to view the entire set.

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# **WEST Search History**

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E: Tuesday, May 25, 2004

<u>Set</u> Name	Query	<u>Hit</u> Count
DB=PC	GPB, USPT, EPAB, DWPI, TDBD; THES=ASSIGNEE; PLUR=YES; OP=ADJ	
L9	hydrophob\$ and (fusion or chimer\$)same aqueous adj two adj phase\$	8
L8	hydrophobin? and aqueous adj two adj phase\$	1
L7	hydrophobin? and (fusion or chimer\$) and aqueous adj two adj phase\$	1
L6	hydroph\$ same fusion and aqueous adj two adj phase\$	6
L5	hydroph\$ and aqueous adj two adj phase\$	192
L4	hydroph\$ same protein? same ((fusion or chimer\$) same (protein? or polypeptide?)) and aqueous same two same phase\$	. 88
L3	hydroph\$ same protein? and ((fusion or chimer\$) same (protein? or polypeptide?)) and aqueous same two same phase\$	391
L2	hydroph\$ and aqueous same two same phase\$	9621
L1	hydroph\$ same ((fusion or chimer\$) same (protein? or polypeptide?)) same two same phase\$	7

OF SEARCH HISTORY

# Hit List

Generate Collection Clear **Fwd Refs Bkwd Refs** Generate OACS Print

Search Results - Record(s) 1 through 6 of 6 returned.

Document ID: US 20040092727 A1

ig default format because multiple data bases are involved.

6: Entry 1 of 6

File: PGPB

May 13, 2004

JB-DOCUMENT-NUMBER: 20040092727

JB-FILING-TYPE: new

JMENT-IDENTIFIER: US 20040092727 A1

LE: Cochleates without metal cations as bridging agents

ICATION-DATE: May 13, 2004

ENTOR-INFORMATION:

CITY

STATE

COUNTRY

RULE-47

, Tuo

 $\mathbf{E}$ 

Highland Park

NJ

US

CL-CURRENT: 534/15

Foll	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawi Desc	Image
										,			

2. Document ID: US 20030157070 A1

6: Entry 2 of 6

File: PGPB

Aug 21, 2003

JB-DOCUMENT-NUMBER: 20030157070

JB-FILING-TYPE: new

JMENT-IDENTIFIER: US 20030157070 A1

E: High efficiency ex vivo transduction of cells by high titer recombinant retroviral parations

ICATION-DATE: August 21, 2003

CNTOR-INFORMATION:

CITY

STATE

COUNTRY

RULE-47

ly, Douglas J.

Leucadia

US

CL-CURRENT: <u>424/93.21</u>; <u>435/372</u>, <u>435/455</u>, <u>435/456</u>

Title Citation Front Review Classification Date Reference Sequences Attachments Claims KMC

#### 3. Document ID: US 6433147 B1

L6: Entry 3 of 6 File: USPT Aug 13, 2002

S-PAT-NO: 6433147

OCUMENT-IDENTIFIER: US 6433147 B1

\* See image for Certificate of Correction \*\*

ITLE: Death domain containing receptor-4

ATE-ISSUED: August 13, 2002

#### VVENTOR-INFORMATION:

AME	CITY	STATE	ZIP	CODE	COUNTRY
i; Jian	Rockville	MD			
osen; Craig A.	Laytonsville	MD			
an; James G.	Belmont	CA			
entz; Reiner L.	Rockville	MD			
ixit; Vishva M.	Los Altos Hills	CA			

S-CL-CURRENT: <u>530/387.3</u>; <u>424/178.1</u>, <u>435/252.3</u>, <u>435/254.11</u>, <u>435/325</u>, <u>435/69.1</u>, <u>530/300</u>, 30/350, <u>530/402</u>, <u>536/23.1</u>, <u>536/23.5</u>

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Classification	Classification Date	Classification Date Reference	Classification Date Reference	Classification Date Reference	Classification Date Reference Supplies Literature Claims	Classification Date Reference Session Lineality Claims KMC	Classification Date Reference Section Laboration Claims KMC Draw. Desc
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## 4. Document ID: US 5614409 A

L6: Entry 4 of 6

File: USPT

Mar 25, 1997

S-PAT-NO: 5614409

OCUMENT-IDENTIFIER: US 5614409 A

TTLE: Production of IBDV VP2 in highly immunogenic form

ATE-ISSUED: March 25, 1997

#### VENTOR-INFORMATION:

AME	CITY	STATE	ZIP CODE	COUNTRY
zad; Ahmed A.	Lower Templestowe			AU
acreadie; Ian G.	Templestowe			AU
cKern; Neil M.	Lilydale			AU
aughan; Paul R.	Rowville			AU
agadish; Mittur N.	Gladstone Park	•		AU
ahey; Kevin J.	Templestowe			AU
hapman; Antony J.	Murrumbeena	1		AU
eine; Hans-Georg	Coburg			AU

G-CL-CURRENT: <u>435/252.3; 424/192.1</u>, <u>424/204.1</u>, <u>435/320.1</u>, <u>435/69.3</u>, <u>530/395</u>, <u>530/403</u>, <u>86/23.4</u>, <u>536/23.72</u>

Full Title Citation Front Review Classification Date Reference Scott Special Claims KMC Draw Desc Image

5. Document ID: US 5304310 A

L6: Entry 5 of 6

File: USPT

Apr 19, 1994

-PAT-NO: 5304310

CUMENT-IDENTIFIER: US 5304310 A

TLE: Method for concentrating and purifying hirudin from leeches

TE-ISSUED: April 19, 1994

VENTOR-INFORMATION:

AME CITY STATE ZIP CODE COUNTRY

eng; Kurt Penzberg DE ceimeyer; Andreas Roemerberg DE

-CL-CURRENT: 210/639; 424/550, 514/21, 530/344, 530/855

Full Title Citation Front Review Classification Date Reference Stations in the Citation Front Review Classification Date Reference

6. Document ID: NZ 514891 A, WO 200058342 A1, AU 200035621 A, EP 1163260 A1, NO 200104534 A, KR 2001108400 A, CN 1357005 A, JP 2002543766 W

L6: Entry 6 of 6

File: DWPI

Oct 31, 2003

RWENT-ACC-NO: 2000-686858

RWENT-WEEK: 200380

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TLE: Isolation and purification of proteins or cells in <u>aqueous two-phase</u> systems, comprises mbining a desired protein or a cell to a targeting protein capable of isolating the protein cell into one of the phases

VENTOR: FAGERSTROEM, R; KULA, M; LINDER, M; NAKARI-SETAELAE, T; PENTTILAE, M; SELBER, K; ERNELD, F; FAGERSTROM, R; NAKARI-SETALA, T; PENTTILA, M

IORITY-DATA: 1999FI-0001782 (August 20, 1999), 1999FI-0000667 (March 25, 1999)

TENT-FAMILY:

JB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
Z 514891 A	October 31, 2003		000	C07K001/14
D 200058342 A1	October 5, 2000	${f E}$	109	C07K001/14
J 200035621 A	October 16, 2000		000	C07K001/14
P 1163260 A1	December 19, 2001	E	000	C07K001/14
200104534 A	November 26, 2001		000	C07K000/00
R 2001108400 A	December 7, 2001		000	C07K001/20
J 1357005 A	July 3, 2002		000	C07K001/14
2002543766 W	December 24, 2002		112	C12N015/09

CL (IPC): <u>B01 D 17/025; B01 D 17/038; C07 K 0/00; C07 K 1/14; C07 K 1/20; C07 K 14/37; C07 C07; C12 N 1/15; C12 N 1/19; C12 N 1/21; C12 N 5/10; C12 N 9/24; C12 N 15/09; C12 N 15/62; C1/02; C12 R 1:885</u>

Full Title Citation Front Review Classification Date Reference Section Claims KMC Draw Desc Image

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